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REPORT ON THE OIL POSSIBILITIES  
OF THE CARIBOO DISTRICT BETWEEN  
SODA CREEK AND QUESNEL

A.W. BAXTER

July 26<sup>th</sup> 1930

GEOLOGICAL BRANCH  
ASSESSMENT REPORT

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REPORT OF THE OIL POSSIBILITIES  
OF THE  
CARIBOO DISTRICT BETWEEN SODA CREEK AND  
QUESNEL

By

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## PREAMBLE

This report is the result of an examination of the district contiguous to the Fraser river between Soda Creek and Quesnel, Cariboo District, B.C. At the request of Mr. Frank A. Patrick I spent sixteen days, from July 4th. to 19th. inclusive, examining this and adjacent areas.

## LOCATION

The district examined lies in Northeastern British Columbia eighty miles South of Prince George, two hundred miles by motor road North of Ashcroft, and approximately four hundred and fifty miles by motor road from Vancouver. The district is served by an excellent motor road, known as the Cariboo Trail; railway transportation is supplied by the Pacific Great Eastern Railway, which extends from Vancouver to Quesnel. In all probability this railway will be extended in the near future to connect up with the Canadian National Railway at Prince George, this necessitating forty miles of road. This gives excellent transportation for drilling equipment. Elevation from 1500 feet at river level to 2000 feet in the adjacent plateaus.

## AREA EXAMINED

The area examined in detail extends from Soda Creek to Quesnel, and from Narcosli and Baker Creek on the West, to Dragon and Mud Lakes on the East. This area embraces 250 square miles.

A general reconnaissance was made of the territory contiguous to this on the North and South, and the territory as far East as Barkerville to determine the outcrops of the lower series of rocks. Due to lack of roads, it was impossible to extend investigation farther West than Narcosis and Baker Creeks in the time allotted.

TOPOGRAPHICAL  
FEATURES

The country immediately surrounding Soda Creek is of a mountainous character. North of this the country undergoes a complete topographical change, rolling uplands and fertile plateaus predominating. These features continue beyond Quesnel. The valleys and ranges of hills have a Northerly trend. The Fraser river cuts a channel through the area examined.

GEOLOGY OF  
DISTRICT

There has been no detailed geological survey made of this area. A brief reconnaissance geological survey of the district was made by Leopold Rineicke. A report of this may be found in Memoir 118 of the Geological survey of Canada. This report has no bearing on oil bearing structures.

The geology at Australian, twenty miles South of Quesnel, may be best presented in columnar form, as follows:

POST GLACIAL

River sands and gravels.

Unconformity.

TERTIARY

Glacial - glacial drift.

Unconformity.

Marine - Basalt flows.

Unconformity.

Oligocene - Fraser river sediments,  
sandstones, shales,  
coal seams and carbonaceous  
clays.

Eocene - Fraser river sediments.

MESOZAIC

Marine sediments.

Unconformity.

CARBONIFEROUS

Limestones, volcanics and schists.

DEVONIAN

Limestones, volcanics and schists.

## STRUCTURE

Structural evidences obtained in shales and coals outcropping on the West side of the Fraser river from Australian Creek to Quesnel give a pitch to the West of  $30^{\circ}$ , the river running parallel to the strike. On the East side of the river within the same boundary the dip is to the East. The strikes converge half a mile North of the Fraser bridge at Quesnel. Evidences to the South show that the structure closes one mile below the mouth of Australian Creek and dips to the South. The Fraser river flows on the anticlinal ridge exposing the coal measures.

There are evidences of parallel folds but these are minor, the Fraser river flowing on the major structure.

## FIELD IN GENERAL

The field is known to contain seams of an excellent quality of cannel coal, fine clay and diatomaceous earths; fossiliferous remains show the seams are of marine origin. These facts are important when considering the field as a prospective oil property.

The field is an extensive one and shows no signs of any faulting and is uniform throughout its entire length.

OIL SEEPAGES

Oil seepages were found at Soda Creek and also on Antler Creek, near Barkerville. The distance between these places is approximately eighty miles. It was doubtful where the seepage came from at Soda Creek, two horizons being considered, one at the base of the Tertiary formation and the other in the shales near the limestone. The seepage found on Antler Creek came from the shales immediately overlying the limestone. Geologically, these shales and limestones appear to be similar to those found near Soda Creek. The limestones and shales found in this area examined were not unlike the limestones and shales found in the Turner Valley oilfield, though their age was not determined geologically.

PROBABLE  
DEPTH

The probable depth to the various geological horizons in this field is difficult to determine due to the great distance between the various outcrops on the edge of the basin, and the thickness is only conjecture. From geological evidence there is a large gap between the Tertiary deposits and the limestones, and this gap may contain rocks of cretaceous age. The probable depth of all the strata including the shales above the limestone, should not exceed four thousand feet.

SUMMARY

The structure is almost ideal. The fine clays of Tertiary age as found in this field, will act as a complete seal. The coals, which in my opinion are of the cannel type, show that these seams were laid down under unusual conditions, but conditions that would favor the deposition and generation of oil. The seepages of oil at the contact of the shales with the limestone, is indisputable evidence of this being an oil region.

In the two and a half weeks that I was on this property I travelled well over two thousand miles and examined every available outcrop, and I can summarize my findings and conclusions in a brief way.

I consider that this is a potentially large oil field, gifted with many unusual advantages as transportation is excellent and water and fuel abundant for drilling purposes as well as good housing facilities. I go unreservedly behind this property, as in my opinion it will prove to be a huge oil field.

UNUSUAL  
VALLEY

I have been associated for the past twenty-five years in the mining and oil business, and have travelled extensively in that time. I wish to state that I have never seen a valley that possessed as much diversified wealth as this area that I have just examined. It is most interesting to note how Nature has placed her treasures. In this valley we have agricultural



activities and lumbering; gold which after seventy years working is still not exhausted; there is an inexhaustible supply of coal, there are commercial deposits of diatomaceous earth and unusual deposits of clays suitable for terra cotta, etc; also marl, which in conjunction with limestone, a high grade cement may be made. All the above is quite evident to an observer.

However, great as the wealth is that can be seen with the eye, I am of the opinion that underneath this all there is greater wealth in the form of oil.

Yours truly,

(signed) A.W.Baxter

Consulting Mining Engineer.